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IN REPLY
REFER TO DSCC -VAI: (Mr. Lee Surowiec/(DSN 850) 614-692-0530) February 6, 2004

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SUBJECT: Initial Draft of MS27110, Revision D, Wire, Electrical, Silicone-Insulated, Copper, 600 Volt, 200 DEG. C, FEP Jacket. Project Number: 6145-2366-000.

The initial draft for this document, dated 28 January 2004, is now available for viewing and downloading from the DSCC-VA Web site:

http://www.dscc.dla.mil/Programs/MilSpec/DocSearch.asp

This document is being revised to update cancelled references and update the format. Technical requirements otherwise remain unchanged.

Concurrance or comments are required at this Center within 45 days from the date of this letter. Late comments will be held for the next coordination of the document. Industrial activities should indicate whether they are commenting from the standpoint of a “User” or “Manufacturer”. Comments from military departments must be identified as either "Essential" of "Suggested". Essential comments must be supported with supporting data. Military review activities should forward comments to their custodians in sufficient time to allow for consolidation of their department reply.

The point of contact for this document is Mr. Lee Surowiec, Defense Supply Center Columbus, DSCC-VAI, Post Office Box 3990, Columbus, OH 43216-5000. Mr. Surowiec can also be reached at 614-692-0530/850-0530, by facsimile at 614-692-6939/850-6939, or by e-mail at leroy.surowiec@dla.mil.

Sincerely,

/signed/

RICHARD L. TAYLOR
Chief
Interconnection Devices Team

cc:
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DSCC-VSS (Bill Heckman)
DSCC-VQP (Kathy Lyons)

This initial draft, prepared by DLA-CC, dated 28 January 2004, has not been approved and is subject to modification. DO NOT USE FOR ACQUISITION.

INCH-POUND

MS27110D
DATE TBD
SUPERSEDING
MS27110C
6 January 1969

DETAIL SPECIFICATION SHEET

WIRE, ELECTRICAL - SILICONE INSULATED, COPPER, 600 VOLT, 200 DEG. C, FEP JACKET

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-W-8777

MS27110 is inactive for new design and is used for replacement purposes only.

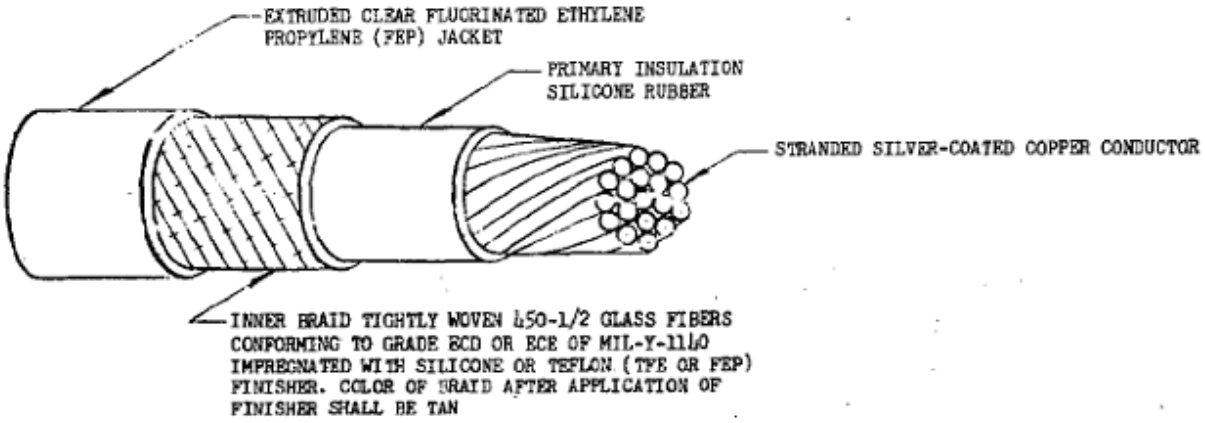


FIGURE 1. Cable.

TABLE I. Performance details.

Wire size	Abrasion test				Flaws test		Insulation and surface resistance			Life cycle and cold bend		
					Min AC voltage 60 Hz RMS					Mandrel diameter		
	Resistance, Inches of tape min.	Tension load lbs.	Weight support bracket	Weight lbs.	Primary insulation	Finished wire	Humidity resistance megohms per 200 feet min.	Insulation resistance megohms per 50 feet min.	Surface resistance megohm inches min	Life cycle	Cold bend	Test load life cycle cold bend lbs.
22	22	1	A	1	2000	5000	3000	1000	100	4.5	3	.75
20	22	1	A	1	2000	5000	3000	1000	100	4.5	3	.75
18	22	1	A	1	2000	5000	3000	1000	100	6.5	3	1
16	30	2	A	1	2000	5000	3000	1000	100	6.5	3	1
14	13	2	B	3	2000	5000	3000	1000	100	6.5	6	1
12	17	2	B	3	2000	5000	3000	1000	100	6.5	6	3
10	20	2	B	3	3000	5000				10	6	3
8	25	2	B	3	3000	5000				10	6	3
6	25	2	C	3	4000	5000				10	10	6
4	33	2	C	4.25	4000	5000				10	10	6

TABLE II. Finished Wire Construction.

Dash	Wire size	Number of strands	Resistance at 20°C (68°F) ohms/1000 feet max.	Finished wire diameter nominal	FEP jacket thickness nominal	Weight finished wire lbs/1000 ft. max.
22	22	19	15.2	.086 ± .004	.007 + .002, –.001	7.1
20	20	19	9.42	.096 ± .004	.007 + .002, –.001	9.0
18	18	19	6.03	.108 ± .004	.007 + .002, –.001	12.1
16	16	19	4.76	.116 ± .004	.007 + .002, –.001	14.3
14	14	19	2.99	.141 ± .004	.008 + .002, –.001	21.5
12	12	19	1.88	.160 ± .005	.008 + .002, –.001	30.5
10	10	49	1.16	.194 ± .005	.008 + .002, –.001	48.0
8	8	133	.70	.243 ± .007	.010 ± .002	75.0
6	6	133	.436	.292 ± .007	.010 ± .002	114.0
4	4	133	.274	.357 ± .007	.010 ± .002	173.0

Inches	mm	Inches	mm	Inches	mm
.001	.025	.108	2.743	2	50.8
.002	.051	.116	2.946	3.5	88.9
.004	.102	.125	3.175	13	330
.005	.127	.141	3.581	17	432
.007	.178	.160	4.064	20	508
.008	.203	.194	4.928	22	559
.010	.254	.243	6.172	24	610
.060	1.524	.292	7.417	25	635
.086	2.184	.357	9.068	30	762
.096	2.438	1.5	38.1	33	838

REQUIREMENTS:

The procurement specification for items described in this specification sheet is MIL-W-8777.

Dimensions are in inches.

Metric equivalents are given for information only.

Dimensions and configuration: See figure 1 and tables I and II.

Tensile strength (minimum): 800 psi before aging; 600 psi after aging.

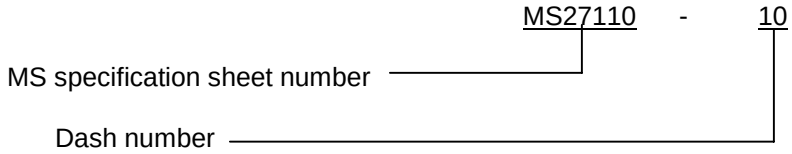
Elongation (minimum): 1½ inches for a 2 inch specimen stretched to 3½ inches, before and after aging.

Insulation shrinkage: During and following the thermal shock test, none of the insulation shall shrink back or flare greater then .060 inch for wire sizes 22 to 12, and .125 inch for wire sizes 10 to 4.

Test sample requirements: Two 24-inch samples shall be taken from each reel of finished wire, or 25,000 feet, whichever is less. The samples shall be placed on mandrels with weights attached as specified for the life cycle test and subjected to 200 ± 5°C for 20 hours. Following the air open test, the samples shall be cooled for one hour and subjected to the bend tests and the dielectric tests of of MIL-W-8777. During these tests, the outer jacket shall not shrink more than .125 inch from each end.

Marking: Marking on inner braid in accordance with MIL-W-8777 shall be visable throught the outer FEP jacket.

Part or Identifying Number (PIN) example:



CONCLUDING MATERIAL

Custodians:
Army - AV
Navy - AS
Air Force – 11
DLA - CC

Preparing activity:
DLA - CC

(Project 6145-2366-000)